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WASHINGTON, D.C. 20554

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ET Docket No. 95-18

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY
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BEFORE THE

Federal Communications Commission

WASHINGTON, D.C. 20554

In the Matter of)	
)	
Amendment of Section 2.106 of the)	
Commission's Rules to Allocate)	ET Docket No. 95-18
Spectrum at 2 GHz for Use)	
by the Mobile-Satellite Service)	

To: The Commission

REPLY COMMENTS OF THE ICO USA SERVICE GROUP

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SUMMARY

In spite of the divergent interests represented by the various parties commenting in this proceeding, the IUSG is pleased to report that the vast majority of the recommendations that it made in its Comments regarding relocation of 2 GHz incumbent licensees were either widely supported by other commenters or, at a minimum, were not opposed. The broad support for the IUSG's relocation proposals (which are now also supported by ICO, and are therefore referred to herein as the "IUSG/ICO Relocation Plan") is strong evidence that those proposals can serve as a means of implementing the Commission's new 2 GHz allocation plan that will advance the public interest and satisfy the needs of MSS entities and incumbent licensees. The IUSG asks the Commission to implement its allocation plan rapidly by adopting the IUSG/ICO Relocation Plan in conjunction with the ICO/IUSG Licensing Plan described in Appendix A to these Reply Comments, bearing in mind the importance of meeting the United States' international commitments to establish a functioning regulatory framework by January 1, 2000 for the operation of MSS in the 2 GHz bands.

The comments filed by MSS and BAS entities in this proceeding indicate that the phased, channel-by-channel transition plan advocated by the IUSG would be far less disruptive to current BAS operations and far less financially burdensome to MSS operators than would the nationwide, simultaneous cutover plan proposed by the Commission. The IUSG/ICO Relocation Plan would also permit a more rapid commencement of MSS operations in the 2 GHz bands, thus providing tangible benefits to the user public sooner than would the Commission's plan. The comments of Cosmos Broadcasting Corporation, Cox Broadcasting, Inc., Media General Inc. and the Radio-

Television News Directors Association (the "Cosmos Group") are particularly noteworthy in this regard, in that they testify to the feasibility and value of the gradual, channel-by-channel transition plan that is the core of the IUSG/ICO Relocation Plan.

While most MSS operators support a phased relocation plan, several offer the Commission an array of arguments for proceeding as slowly as possible to adopt the necessary rules and procedures to put such a transition plan into place. Some also recommend relocation negotiation procedures that would prolong negotiations unnecessarily. The Commission must not heed such views, which are transparent attempts to delay the establishment of those 2 GHz MSS systems that will be first to market.

Many commenters, including BAS entities, support the Commission's proposed 12-13 MHz BAS 2 GHz channelization plan, and the IUSG believes that the IUSG/ICO Relocation Plan is ideally suited to establishing such a scheme. There is ample evidence that technology already exists to permit certain BAS operations in 12-13 MHz channels, and ongoing testing and experimentation will soon yield comparable capabilities for other BAS functions.

As indicated in its Comments, the IUSG is willing to work in accordance with the general relocation and cost recovery policies established in the Commission's ET/Microwave proceedings, so long as those policies are adapted to reflect the realities of 2 GHz MSS. The IUSG urges, however, that the Commission not permit incumbent licensees to wring from MSS operators more compensation than they are reasonably entitled to receive for shifting to the Commission's new 2 GHz allocations. Thus, for example, incumbent licensees should only be able to recover the depreciated basis of their equipment at the time of actual relocation. Failure to keep relocation costs within reasonable bounds may jeopardize the very future of U.S. 2 GHz MSS.

A substantial number of BAS licensees appear to contemplate that MSS operators will provide BAS incumbents with relocation funds so that the incumbents can purchase and install replacement equipment themselves. The IUSG strongly supports this approach, which appears to be far more efficient than requiring MSS operators to retune or replace equipment at BAS facilities throughout the United States to the varying specifications of each BAS licensee. Using this "payment method" should also reduce, or even eliminate in some cases, the need for relocation negotiations, and would obviate Commission establishment and enforcement of a complex equipment replacement standard.

Some BAS and FS entities counsel the Commission to dispense with a sunset date on relocation cost reimbursement. They fail to mention, however, that in the absence of a sunset date, they will have no incentive ever to reach agreement with MSS operators in any necessary relocation negotiations. The Commission's ET/Microwave policies properly employed a sunset date to create such an incentive, and the Commission should do the same here. With respect to those FS licensees seeking an extended sunset period -- as well as those seeking an extended relocation notice period once the sunset period expires -- the IUSG reminds the Commission that FS incumbents have been on notice for 13 years of the likelihood that relocation of their facilities will be required and hardly need further warning.

Several MSS commenters agree that, in order for meaningful negotiations between MSS licensees and BAS incumbents to begin, incumbents must promptly submit the information sought in the July 30, 1998 Request for Mandatory Submission of Information to which IUSG members were parties. The complaints of certain BAS incumbents as to the burdens of complying with such a requirement have no merit, as submission of the subject information will be required in any event

once negotiations are underway.

The Commission should permit only licensed MSS entities that have met established system milestones to participate in negotiations. Were it not to impose this requirement, the Commission would run the grave and probable risk that "paper" satellite systems, or systems that are still years from operational status, could deliberately slow the negotiation process so as to hamper early market entry by their competitors.

With particular regard to the relocation of FS incumbent licensees, the overwhelming majority of commenters either agree or do not challenge the Commission's basic assumption that MSS/FS sharing is feasible in the 2 GHz bands. The one commenter disagreeing on this point offers claims that have no basis in fact or law.

Certain FS licensees urge that, should any relocation of their operations prove necessary, the Commission adopt negotiation periods longer than those proposed by the Commission. Their interest on this matter, however, appears to result from a concern over a simultaneous nationwide transition to the Commission's new spectrum plan. The IUSG/ICO Relocation Plan would alleviate this concern, and the IUSG requests that the Commission either commence the voluntary negotiation period on the date on which 2 GHz MSS applications were first accepted for filing (i.e., July 22, 1997) or, as several commenters suggest, eliminate it altogether.

The IUSG opposes those FS commenters seeking reimbursement for self-initiated relocation of their systems. New entrants are not required to relocate primary FS incumbents unless and until they cause harmful interference to such incumbents.

The IUSG also opposes API's attempt to obtain reimbursement, in the event of relocation, for replacement of excess capacity in its FS systems. The public interest would not be served by

obligating MSS operators to pay for FS purchases of capacity that were either based on inaccurate projections of demand or were efforts to acquire the means to enter the capacity resale market.

Finally, the IUSG urges the Commission not to allow itself to be goaded into adopting relocation cost sharing policies that treat MSS licensees inequitably. Commenters support the view that MSS licensees should only be required to pay to clear spectrum that they use, and only if they cannot share with incumbent licensees. The Commission should reject the views of those commenters seeking a requirement that MSS operators subsidize their competitors' business decisions by reimbursing one another for variations in the cost of clearing different portions of the 1990-2025 MHz band. The Commission must require, however, that MSS operators using spectrum cleared by an earlier entrant reimburse that earlier entrant fully for all relocation expenditures, including the cost of capital, regardless of when the relocating party entered the market.

BEFORE THE

In the Matter of

Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile-Satellite Service

To: The Commission

REPLY COMMENTS OF THE ICO USA SERVICE GROUP

BT North America Inc., Hughes Telecommunications and Space Company,

¹ Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile-Satellite Service, Memorandum Opinion & Order and Third Notice of Proposed Rule Making and Order, ET Docket No. 95-18 (FCC 98-309) (released November 25, 1998) (“MO&O” or “Third NPRM,” as appropriate).

² See Third NPRM, FCC 98-309, slip op. at 3(¶ 5) & n.13.

operators can begin to provide service in the 2 GHz bands in the United States at the same time as they begin to provide it in the rest of the world.

I. INTRODUCTION

The IUSG is pleased to report that, in spite of the divergent interests represented by the commenters, the great majority of the recommendations made by the IUSG in its Comments³ regarding the relocation⁴ of incumbent services in the 2 GHz bands for purposes of accommodating the MSS were either widely supported by other commenters or, at a minimum, were not opposed. In those relatively few cases where other commenters did take positions contrary to those of the IUSG, their own views were generally called into question by conflicting information presented by other commenting parties. *The IUSG believes that the broad support reflected in the comments of other parties for the most important elements of its relocation plan points the way to a means of implementing the Commission's new 2 GHz allocation plan that will serve the public interest and be acceptable both to BAS and MSS entities.* The instant Reply Comments are intended to clarify for the Commission the IUSG's recommendations, to demonstrate the significant degree of support for those recommendations, and to respond to those commenters that appear to take positions inconsistent with them.

³ Comments of the ICO USA Service Group, ET Docket No. 95-18 (filed Feb. 3, 1999) ("IUSG Comments").

⁴ In the context of this pleading, the term "relocation" is meant to include all forms of incumbent operational modifications necessary to permit 2 GHz MSS, including literal relocation out of existing frequency bands, the replacement or modification of some or all of an incumbent licensee's equipment such that continued operation in existing frequency bands is possible, and simple retuning.

II. SUPPORT FOR IUSG RECOMMENDATIONS

In the IUSG Comments, the IUSG sought to provide the Commission with a roadmap for the relocation of terrestrial incumbent licensees in the 2 GHz bands and the rapid establishment of MSS operations in those bands. ICO Services Limited ("ICO") now joins the IUSG in offering that roadmap — which, as described herein, incorporates both an incremental relocation plan and an MSS licensing plan — as indicated in its Reply Comments filed on this date.⁵ While eager to ensure that the Commission's policies regarding the 2 GHz bands guarantee the viability of MSS competition in the United States, the integrated plan of the IUSG and ICO (the "IUSG/ICO Relocation Plan") also acknowledges the rights and needs of BAS⁶ and FS licensees to continue to operate effectively in those bands and demonstrates the IUSG's willingness to work in accordance with the general cost recovery policies established by the Commission in its Emerging

⁵ In this connection, the IUSG notes ICO's views on the Commission's relocation policies, and the concerns of ICO and Commissioner Ness regarding the global implications of those policies for the satellite industry.

⁶ In this pleading, "BAS" will refer collectively to the Broadcast Auxiliary Service, the Cable Television Relay Service ("CARS") and the Local Television Transmission Service ("LTTS").

Technologies⁷ and Microwave Relocation/Cost-Sharing⁸ proceedings (together, the "ET/Microwave" proceedings). The IUSG believes that the broad support reflected in the comments of other parties for the most important elements of the IUSG/ICO Relocation Plan is a clear indication of the plan's merit, and urges the Commission to adopt the plan and to proceed with the establishment of 2 GHz MSS at the earliest possible time.

The IUSG directs the Commission's attention to the following recommendations set forth in its Comments, each of which was also made or supported by a majority of the commenters addressing the topic in question:

Reallocation of the 2025-2110 MHz Band for the BAS: In the IUSG Comments, the IUSG stated its agreement with the Commission's proposal to reallocate 85 MHz of spectrum for the Broadcast Auxiliary Service, the Cable Television Relay Service ("CARS") and the Local Television Transmission Service ("LTTS") (together, the "BAS") at 2025-2110 MHz, and its belief that either BAS analog or digital equipment could operate in channels of 12 MHz within

⁷ Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies, *First Report and Order and Third Notice of Proposed Rule Making*, 7 FCC Rcd 6886 (1992) ("Emerging Technologies First R&O and Third NPRM"); *Second Report and Order*, 8 FCC Rcd 6495 (1993); *Third Report and Order and Memorandum Opinion and Order*, 8 FCC Rcd 6589 (1993) ("Emerging Technologies Third R&O and MO&O"); *Memorandum Opinion and Order*, 9 FCC Rcd 1943 (1994); *Second Memorandum Opinion and Order*, 9 FCC Rcd 7797 (1994), *aff'd*, Ass'n of Public Safety Communications Officials-International, Inc. v. FCC, 76 F.3d 395 (D.C. Cir. 1996) (together, "Emerging Technologies").

⁸ Amendment to the Commission's Rules Regarding a Plan for Sharing the Costs of Microwave Relocation, *First Report and Order and Further Notice of Proposed Rule Making*, 11 FCC Rcd 8825 (1996) ("Microwave Relocation/Cost-Sharing First R&O and FNPRM"); *Second Report and Order*, 12 FCC Rcd 2705 (1997) (together, "Microwave Relocation/Cost-Sharing").

those bands.⁹ Numerous parties endorsed or acknowledged the viability of this plan,¹⁰ including the Association for Maximum Service Television, Inc., the National Association of Broadcasters (together, "MSTV/NAB") and the Society of Broadcast Engineers ("SBE").¹¹ In addition, Walt Disney Imagineering Research & Development, Inc. ("Disney") reported the results of its own research indicating that digital BAS operations in channels of 12.14 MHz are entirely practicable.¹² While two parties representing broadcasting interests alleged that the reallocation of BAS operations to the 2025-2110 MHz band would cause a variety of technical and practical difficulties,¹³ one also offered suggestions for how the Commission could best implement the

⁹ IUSG Comments at 5, 11-12.

¹⁰ See, e.g., Comments of Constellation Communications, Inc., ET Docket No. 95-18, at 5 (filed Jan. 19, 1999) ("Constellation Comments") (proposing BAS digital operations in channels with bandwidths of 9.5 or 8.5 MHz); Comments of Inmarsat in Response to Third Notice of Proposed Rulemaking, ET Docket No. 95-18, at 4 (filed Feb. 3, 1999) ("Inmarsat Comments"); Comments of Iridium LLC, ET Docket No. 95-18, at 2-3 (filed Feb. 3, 1999) ("Iridium Comments"); Comments of ICO Services Limited, ET Docket No. 95-18, at 17 (filed Feb. 3, 1999) ("ICO Comments").

¹¹ Joint Comments of the Association of Maximum Service Television, Inc. and the National Association of Broadcasters, ET Docket No. 95-18, at 2-5 (filed Feb. 3, 1999) ("MSTV/NAB Comments"); Response of the Society of Broadcast Engineers, Inc. to Memorandum Opinion and Order and Third Notice of Proposed Rule Making and Order, ET Docket No. 95-18, at 1 (filed Feb. 3, 1999) ("SBE Comments").

¹² See Comments of Walt Disney Imagineering Research & Development, Inc., ET Docket No. 95-18, at 1-3 (filed Feb. 3, 1999) ("Disney Comments").

¹³ See, e.g., Comments of The Association of America's Public Television Stations, ET Docket No. 95-18, at 3-7 (filed Feb. 3, 1999) ("APTS Comments"); Joint Comments of Cosmos Broadcasting Corporation, Cox Broadcasting, Inc., Media General Inc. and Radio-Television News Directors Association, ET Docket No. 95-18, at 2-4, 7-9 (filed Feb. 3, 1999) ("Cosmos Group Comments").

reallocation in a manner similar to that recommended by the IUSG if it decides to do so.¹⁴ Thus, there appears to be significant support for and little opposition to the Commission's reallocation plan.¹⁵

Modifications to ET/Microwave Policies: The IUSG stated in its Comments its willingness to abide by the general relocation and cost recovery policies established in the ET/Microwave proceedings, provided that those policies are adapted to reflect the realities of the national and global MSS industry and the operations of incumbent BAS and FS licensees.¹⁶ Virtually every commenter addressing the subject urged the Commission to modify its ET/Microwave policies in some manner, with many noting the fundamental differences between the individually licensed and geographically separate PCS frequency blocks that were at issue in the Microwave Relocation/Cost-Sharing proceeding, on the one hand, and the ubiquitous nature of MSS operations, the enormous cost of MSS systems and the long time period required to establish such systems, on the other.¹⁷ The Commission could not have received a clearer signal

¹⁴ Cosmos Group Comments at 7-12.

¹⁵ BST, Inc. ("BST"), an LTTS licensee, does not object to the reallocation of the 2025-2110 MHz band for BAS operations but indicates that it cannot presently utilize 12 or 13 MHz channels. See Comments of BST, Inc., ET Docket No. 95-18, at 5-10 (filed Feb. 3, 1999) ("BST Comments"). BST therefore asks, among other things, that the Commission provide LTTS operators with 35 MHz of spectrum to replace the spectrum lost to the MSS. See id. The IUSG has no objection to such an allocation, so long as it does not infringe on the strong public interest in affordable, promptly available 2 GHz MSS.

¹⁶ IUSG Comments at 6, 14-40.

¹⁷ See, e.g., Comments of the Boeing Company, ET Docket No. 95-18, at 3-4 (filed Feb. 3, 1999) ("Boeing Comments"); Comments of Globalstar, L.P., ET Docket No. 95-18, at 2-3 (filed Feb. 3, 1999) ("Globalstar Comments"); Comments of the
(continued...)

that changes to its relocation and cost recovery policies for purposes of the instant proceeding are essential to achieving a workable transition to MSS use of the 2 GHz band.

Relocation Principles: The IUSG proposed that the Commission modify its ET/Microwave policies so as to, among other things: (i) mandate relocation (and the expenditure of funds that relocation requires) only where harmful interference cannot be avoided; (ii) provide that such relocation can be accomplished without wholesale removal of incumbent licensees from the existing frequency bands; and (iii) provide that the least expensive means of relocation will suffice.¹⁸ Significantly, each of these proposals received direct or implicit support not only from MSS operators,¹⁹ but also from certain parties whose operations may need to be relocated under

¹⁷(...continued)

Personal Communications Industry Association, ET Docket No. 95-18, at 5 (filed Feb. 3, 1999) ("PCIA Comments"); Comments of TMI Communications and Company, Limited Partnership, ET Docket No. 95-18, at 4 (filed Feb. 3, 1999) ("TMI Comments"); Comments of the American Petroleum Institute, ET Docket No. 95-18, at 4, 6-7 (filed Feb. 3, 1999) ("API Comments"); APTS Comments at 7-8; MSTV/NAB Comments at 6-11; Cosmos Group Comments at 7-11; Iridium Comments at 1-3; Comments of SBC Communications, Inc., ET Docket No. 95-18, at 3-6 (filed Feb. 3, 1999) ("SBC Comments"); UTC Comments on Third Further Notice of Proposed Rulemaking, ET Docket No. 95-18, at 4 (filed Jan. 19, 1999) ("UTC Comments").

¹⁸ See IUSG Comments at 6-7, 21-26, 30-35.

¹⁹ Regarding point (i), see, e.g., Comments of Celsat America, Inc., ET Docket No. 95-18, at 2 (filed Feb. 3, 1999) ("Celsat Comments") (indicating that relocation is inappropriate where spectrum sharing is a more spectrally efficient and just alternative); Globalstar Comments at 5 (clarifying that relocation is not required where satellite systems can share with terrestrial incumbents); Comments of ICO Services Limited at 10-11 (arguing that MSS providers should not be required to relocate incumbents with which they can share spectrum); Inmarsat Comments at 6 (promoting the concept that relocation of FS systems is unnecessary where MSS and FS licensees can share spectrum). Regarding point (ii), see, e.g., Boeing Comments at 5 (advocating a phased transition that would permit negotiating
(continued...)

the Commission's 2 GHz reallocation plan.²⁰ It is therefore plain that, while other commenters expressed opposing views, the IUSG's proposals point the way towards a relocation process that will satisfy the concerns of all interested parties.

Nationwide, Simultaneous Changeover to New Allocations: The IUSG strongly opposed the Commission's suggestion that MSS operators be required to relocate BAS operations from the current BAS frequencies to the 2025-2110 MHz band simultaneously throughout the country, noting that such a plan would be unnecessarily disruptive of BAS operations, expensive, unworkable and detrimental to the implementation of 2 GHz MSS.²¹ The IUSG urges the Commission to take note that numerous parties voiced similar concerns.²² Moreover, while a few

¹⁹(...continued)

parties to explore and identify the most economical means to accomplish relocation); Constellation Comments at 4 (“[A] gradual transition plan should be established under which BAS facilities . . . [are] converted to digital transmission schemes while MSS systems . . . [are] being placed into service.”). Regarding point (iii), see, e.g., Boeing Comments at 7-8 (“MSS licensees should not be required to pay to upgrade to digital BAS licensees' equipment if the BAS licensees can be relocated and provided comparable capabilities by retuning the equipment.”); Constellation Comments at 6 (“[R]elocation cost reimbursements should be based on the minimum cost equipment”).

²⁰ Regarding point (i), see, e.g., Comments of Medina Electric Cooperative Inc., ET Docket 95-18, at 8 (filed Jan. 19, 1999) (“Medina Comments”) (pointing out that no relocation of FS operations may be necessary where MSS and FS licensees can share spectrum). Regarding point (ii), see, e.g., Cosmos Group Comments at 7-8 (asserting that a carefully staged, multi-year transition is essential to preserving local news coverage capabilities). Regarding point (iii), see, e.g., SBE Comments at 4 (supporting the proposal that the FCC should defer to the business decisions of the affected parties as to whether it is most economical and efficient to retune existing BAS equipment or buy new equipment).

²¹ See IUSG Comments at 7, 16-21.

²² See, e.g., Boeing Comments at 5; Globalstar Comments at 6; Constellation
(continued...)

parties representing broadcasting interests expressed support for a simultaneous, nationwide changeover, Cosmos -- representing the interests of the owners of many television stations and the world's largest professional organization devoted exclusively to electronic journalism -- informed the Commission in no uncertain terms that such a changeover "is not even remotely practicable."²³ Cosmos' views (discussed further below) alone are reason enough for the Commission to rethink its proposed transition plan.

IUSG/ICO Relocation Plan for BAS at 2 GHz: As an alternative to the Commission's flash-cut changeover plan, the IUSG recommended that the Commission adopt a more gradual, channel-by-channel transition plan which progressively makes available limited 2 GHz spectrum for MSS use as it is needed, and relocates BAS and FS licensees only when absolutely necessary to avoid harmful interference.²⁴ Boeing and Constellation both agree that a phased transition would be preferable to the flash-cut plan proposed by the Commission,²⁵ and Globalstar notes fundamental problems with a simultaneous nationwide changeover to the Commission's new 2 GHz allocation plan.²⁶ Several broadcasting entities do argue that a gradual relocation of BAS operations to the 2025-2110 MHz band is impracticable, on the assumption that such a relocation

²²(...continued)

Comments at 4; Cosmos Group Comments at 7-8.

²³ Cosmos Group Comments at 7.

²⁴ See IUSG Comments at 23-26 and Exhibit 1.

²⁵ See Boeing Comments at 6; Constellation Comments at 4.

²⁶ Globalstar Comments at 6.

would only be undertaken one market or geographic area at a time.²⁷ Noting that MSS transmissions cannot be confined to particular markets and that MSS operations would surely commence before all BAS licensees were relocated, these commenters asserted that a gradual BAS transition plan would subject many BAS licensees to unacceptable interference from MSS operations.²⁸ Cosmos, however, reached the same conclusion as the IUSG: that a channel-by-channel transition (rather than a market-by-market one) will allow current BAS operations to continue in unaffected channels --thus ensuring that valuable 2 GHz spectrum does not lie fallow - while MSS operations commence throughout the country in channels that have been cleared.²⁹ As discussed further herein, the IUSG continues to believe that this approach will best serve the interests of all parties to this proceeding.

Conditions on BAS Licenses/Freeze on New BAS and FS Applications: In order to permit an orderly transition to the new 2 GHz spectrum plan and to enable MSS operators to estimate and limit relocation costs, the IUSG recommended that the Commission (i) condition the license of any BAS applicant authorized after the release of the March 14, 1997 FNPRM in this proceeding³⁰ on relocation by the licensee at its own expense; and (ii) immediately impose a freeze on all applications for new BAS and FS licenses and modifications of existing licenses in the

²⁷ See, e.g., MSTV/NAB Comments at 6-8; SBE Comments at 3-4.

²⁸ See, e.g., SBE Comments at 3-4.

²⁹ Cosmos Group Comments at 9.

³⁰ Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile-Satellite Service, First Report & Order and Further Notice of Proposed Rule Making, 12 FCC Rcd 7388 (1997) ("First R&O" or "FNPRM," as appropriate).

affected frequency bands, effective on the date of the MO&O in this proceeding.³¹ The comments of TMI and Inmarsat lend strong support to these proposals.³² Equally notable, however, is the fact that -- although both the conditioning of BAS licenses and a freeze on applications for BAS and FS licenses were addressed in the December 23, 1998 Emergency Petition for Further Limited Reconsideration regarding the Commission's MO&O³³ -- no party to this proceeding voiced objections to either proposal in its comments on the Third NPRM.³⁴ If the Commission has firmly determined that MSS operators must pay the substantial cost of relocating BAS and FS incumbent 2 GHz licensees, the IUSG cannot conceive of a legitimate reason to add to that cost by allowing BAS and FS operators with long-standing notice of the imminent relocation of 2 GHz BAS/FS operations to obtain new facilities at MSS operators' expense.

³¹ See IUSG Comments at 27-30, 41-42.

³² See TMI Comments at 5-6 (arguing that the Commission should at least state that BAS facilities licensed in the 1990-2025 MHz bands after January 1999 will be secondary and entitled to no relocation compensation; preferably, Commission would impose moratorium on new BAS and FS licenses in the 1990-2025 and 2165-2200 MHz bands); Inmarsat Comments at 3-4 (advocating that the Commission should not authorize additional BAS systems in the 1990-2025 MHz band, and should only authorize major modifications and extensions of existing BAS licenses on a secondary basis during the interim period prior to relocation). See also Boeing Comments at 2 (urging that incumbents should only be compensated to relocate facilities that were in service at the time the Commission announced that 2 GHz spectrum would be reallocated to emerging technologies).

³³ Emergency Petition for Further Limited Reconsideration, ET Docket No. 95-18, at 4-8 (filed December 23, 1998).

³⁴ In fact, Iridium reiterated its support for the conditioning of BAS licenses in accordance with the IUSG's request in Iridium's Consolidated Comments on Petitions for Reconsideration (ET Docket No. 95-18) (filed February 22, 1999) at 3.

Negotiations Between MSS Operators and 2 GHz Incumbents: Where spectrum sharing between MSS operators and 2 GHz incumbent licensees proves unworkable, the IUSG recommended that the Commission permit MSS licensees to negotiate individually or collectively with BAS/FS licensees, as appropriate. In addition, the IUSG urged the Commission to hold that the period for voluntary relocation negotiations has expired, and to establish a one-year mandatory negotiation period commencing on the date of issuance of the forthcoming Report and Order in this proceeding. Virtually every party filing comments on the matter recognized the virtue of collective negotiations in some circumstances with the numerous and geographically diverse BAS and FS licensees,³⁵ and key representatives of broadcast interests also urged that individual licensees be given the option of negotiating individually if they so choose.³⁶ As for the timing of negotiations, both satellite and broadcasting entities favored shortening or eliminating entirely the voluntary negotiation period.³⁷ While there was some disagreement as to the precise length of the mandatory negotiation period, broadcasting entities do favor an expedited

³⁵ See, e.g., Iridium Comments at 6-8; APTS Comments at 6; Boeing Comments at 3; MSTV/NAB Comments at 13-14 & n.21 (urging that collective negotiation is necessary given current spectrum sharing among BAS licensees, and will facilitate coordinated relocation on an expedited basis and reduce negotiation time and transaction costs); SBE Comments at 6; UTC Comments at 5 & n.5.

³⁶ See, e.g., APTS Comments at 6; MSTV/NAB Comments at 13-14 & n.21; BST Comments at 13 (noting that regardless of whether the NAB or some other entity is identified to administer the transition, LTTS companies such as BST should be considered separately).

³⁷ See Globalstar Comments at 3; MSTV/NAB Comments at 16 & n.27; Cosmos Group Comments at 11.

negotiation process.³⁸ The expressed interest of certain FS licensees in extending rather than shortening the negotiation process apparently stems from concerns that a simultaneous, nationwide transition to the Commission's new spectrum allocation plan would disrupt FS operations,³⁹ but the IUSG believes that its more gradual transition plan will entirely resolve such perceived problems.

Sharing of Relocation Costs Among MSS Licensees: The IUSG also proposed that all licensed MSS operators using the same spectrum be required to share equitably all of the costs incurred by any MSS licensee(s) to relocate incumbent users from that spectrum.⁴⁰ Although the various MSS system applicants⁴¹ offered a wide range of ideas on how incumbent relocation can best be accomplished and funded, most commenters addressing the issue agreed explicitly or implicitly that relocation costs associated with shared spectrum should be divided in some just

³⁸ See MSTV/NAB Comments at 12; APTS Comments at 6.

³⁹ See Comments of APCO in Response to Third Notice of Proposed Rulemaking, ET Docket No. 95-18, at 3-4 (filed Feb. 1, 1999) ("APCO Comments"); API Comments at 7; UTC Comments at 1, 4 & n.3.

⁴⁰ See IUSG Comments at 48-52.

⁴¹ In this pleading, the IUSG uses the word "application" and "applicant," with respect to MSS systems, to refer both to U.S.-licensed systems' requests for assignment of spectrum and to letters of intent for non-U.S. licensed systems seeking access to 2 GHz spectrum in the United States, unless the context indicates otherwise.

manner among the MSS licensees using that spectrum.⁴² Simple principles of fairness require no less.⁴³

* * *

In view of the substantial promise of the IUSG/ICO Relocation Plan as a consensus solution to the challenges faced by the Commission in implementing its 2 GHz allocation scheme, the IUSG believes that a series of illustrations of how the plan would work in actual application — in conjunction with its recommendations on 2 GHz MSS licensing — would serve the interests of the Commission and the parties to this proceeding. Accordingly, the IUSG has attached as Appendix A hereto a detailed discussion of the IUSG/ICO Relocation Plan that contains such illustrations, preceded by a description of the ICO/IUSG Licensing Plan and how that latter plan would mesh with the relocation of incumbent licensees.

⁴² See, e.g., Globalstar Comments at 5-6 (“Imposing a reimbursement obligation appears necessary to capture the benefit all systems receive from relocation of terrestrial stations in a shared frequency band segment”); Constellation Comments at 2 (“A CDMA system should not be required to contribute to the relocation of an existing system if the relocation is necessary to accommodate a TDMA system[,] . . . [with which the CDMA system cannot share spectrum]”); Boeing Comments at 3-4 (contemplating that costs of relocating incumbent licensees should be allocated among all MSS licensees in a given band that are benefited by the relocation).

⁴³ Boeing’s allegation (Boeing Comments at 4) that some spectrum may be more costly to clear than other spectrum is unsupported by any evidence. Likewise, Iridium’s complaint (Iridium Comments at 5) that there may be “inequities” in allowing each MSS licensee to clear its own spectrum is accompanied by no explanation (and no demonstrations) of what these inequities might be or how they would arise, thus underscoring the fact that it is pure speculation on Iridium’s part.

III. ANALYSIS OF THE VIEWS OF OTHER COMMENTERS DEMONSTRATES THAT THE ICO/IUSG RELOCATION PLAN IS VIABLE AND PREFERABLE TO THE OTHER OPTIONS PRESENTED.

Although there was widespread support in the comments filed by other parties for the fundamental elements of the IUSG/ICO Relocation Plan, several parties took positions or offered information that, at first blush, could be seen as inconsistent with that plan. As demonstrated below, however, closer examination and consideration of the comments of other parties reveals that the IUSG/ICO Relocation Plan is indeed viable and, in fact, preferable to all other options presented in this proceeding to date in that it best serves the interests process for all interested parties.

A. The IUSG/ICO Relocation Plan Would Afford the Least Disruptive Transition for Incumbent 2 GHz BAS Licensees While Also Making Any Necessary Relocations More Affordable to MSS Operators and Permitting Rapid 2 GHz MSS Market Entry.

In spite of the expressed views of certain commenters, the IUSG and other parties believe strongly that a phased transition plan is far less disruptive to current BAS operations and far less financially burdensome to MSS operators than would be the nationwide, simultaneous cutover plan proposed by the Commission. The IUSG/ICO Relocation Plan would also permit a more rapid commencement of MSS operations in the 2 GHz band, thus providing tangible benefits to the user public sooner than the Commission's proposed plan. The IUSG urges the Commission not to heed those commenters that seek to prolong this proceeding and the related negotiation process between MSS operators and incumbent licensees in an effort to delay the establishment of those 2 GHz MSS systems that will be first to market.

1. Most MSS Entities Addressing the Subject Agree That a Simultaneous, Nationwide Transition Would Unduly Burden MSS Operators.

The comments of MSS entities in this proceeding provide convincing evidence that a nationwide, simultaneous transition to the Commission's new 2 GHz allocation plan is simply unworkable. As Boeing observes, such a transition process would place "a potentially unmanageable financial burden on MSS licensees"⁴⁴ by requiring that any and all required retuning or replacement of BAS facilities take place on a date certain. Globalstar, too, notes the heavy up-front costs that MSS operators would be obligated to bear, and adds that any such transition in the near term would force many MSS operators to make large expenditures well before they are prepared to commence operation of their respective systems.⁴⁵

One principal problem with placing such an immediate and great financial weight on the shoulders of MSS operators is that not all MSS operators will enter the market for 2 GHz MSS at the same time. Thus, as Globalstar indicates, requiring MSS licensees to pay the huge cost of all necessary BAS relocations at one time would penalize the MSS operator that will be the first to market by forcing it to pay the entire relocation cost alone. Faced with such a daunting financial burden, it is likely that such an early entrant -- which will surely be ICO -- will be forced to postpone the provision of service in the United States rather than undertake to pay such a large sum on the theory that later entrants appearing years in the future will reimburse it (or that they will do so without objection or foot-dragging). The Commission cannot avoid this problem by simply licensing all eligible MSS applicants and then imposing relocation costs on each of them, as

⁴⁴ Boeing Comments at 5.

⁴⁵ See Globalstar Comments at 6; IUSG Comments at 18.

many such applicants are start-up companies that will not be able to afford the high cost of relocating BAS facilities until they have secured financing for their proposed satellite systems and are prepared to commence the service that will be their source of revenues. Thus, although ICO will be ready to commence service in the United States next year, a nationwide simultaneous transition to the Commission's new 2 GHz allocations would delay the provision of 2 GHz MSS until most other MSS operators are ready to enter the market -- i.e., until somewhere between 2003 and 2005 at the very earliest.⁴⁶ Such a delay plainly would disserve the public interest in obtaining access to new services (not to mention the harm to incumbent licensees — See Section (III.A.1.c., *infra*), and would block market access for the only near-term competitor to the MSS systems that the Commission has previously authorized to operate in the 1.6/2.4 GHz bands.

**a. The Commission Should View Iridium's Support for a
Simultaneous, Nationwide Changeover With a Skeptical Eye.**

As a nationwide, simultaneous changeover to the Commission's new 2 GHz allocations would unquestionably delay for years the provision of 2 GHz MSS, the Commission must take the support for that plan voiced by Iridium -- the only U.S. MSS licensee currently providing international voice services -- with a grain of salt. Iridium's assertion that a simultaneous, nationwide changeover would be "competitively neutral because it assures that all MSS operators will have access to their assigned spectrum simultaneously"⁴⁷ would only be true if all proposed 2 GHz MSS systems were at the same stage of development. As discussed above, however, the entity that presents the most imminent challenge to Iridium's current monopoly on international

⁴⁶ See IUSG Comments at 18-19; Constellation Comments at 4 (asserting that most MSS systems will not be operational until the 2003-2005 timeframe, if then).

⁴⁷ Iridium Comments at 4.

MSS voice service will be ready to enter the marketplace far sooner than other 2 GHz MSS applicants, and the nationwide simultaneous changeover advocated by Iridium would have the distinctly anticompetitive effect of blocking that entry for at least half a decade. Thus, contrary to Iridium's claim, a simultaneous nationwide changeover would not provide MSS operators "with the valuable assurance that their assigned spectrum will be clear for entry at the time it is required."⁴⁸ Rather, those MSS operators that need the spectrum in the near term will be unable to use it unless the Commission divides the cost of relocation among current MSS applicants and insists that each pay its share now, in which case the majority of MSS operators will be forced to pay for it years before they need it.

Most questionable of Iridium's assertions is that MSS operators "should and will be willing to bear" the overwhelming up-front costs required to finance a simultaneous nationwide cutover to the Commission's new 2 GHz allocation plan.⁴⁹ Even if Iridium were genuinely willing to make such up-front payments itself, it is well aware that other MSS operators cannot do so at this time. The IUSG questions whether Iridium has any real intentions of operating its system in the 2 GHz bands at all, or whether the arguments set forth in its comments may not be a simple effort to create obstacles to the competition that other MSS systems will provide.

b. The Support of Some BAS Entities for a Nationwide Simultaneous Relocation of Their Operations Stems from False Assumptions.

The IUSG believes that the support given to the Commission's nationwide, simultaneous relocation plan by some BAS entities -- and the dire warnings given by such entities about the

⁴⁸ Iridium Comments at 3-4.

⁴⁹ Id. at 4.

consequences of not pursuing such a simultaneous changeover -- are based on a simple failure to consider all options for implementing a gradual transition that would be much more beneficial to all concerned. Many BAS entities, for example, argue that a more gradual transition to the Commission's new 2 GHz spectrum allocations is impossible because the ubiquitous nature of MSS operations would result in unacceptable interference to those BAS incumbents that are not immediately relocated under any market-by-market or geographically based, step-by-step transition plan.⁵⁰ Based on this reasoning, these parties conclude that a nationwide, simultaneous retuning or replacement of affected BAS facilities on a date certain is the Commission's only recourse. BST, acknowledging that sufficient MSS funding for such a wholesale relocation effort is not yet available, states that a timely transition cannot take place earlier than two years from the date of finality of the Report and Order in this proceeding -- and then, only if sufficient funding has materialized.⁵¹

The fallacy in these arguments is perceptively identified by Cosmos (and its joint filers Cox, Media General and RTNDA), which observes that a gradual transition to the Commission's

⁵⁰ See MSTV/NAB Comments at 7; SBE Comments at 3-4; APTS Comments at 6; BST Comments at 11. The IUSG notes that, while MSTV/NAB asserts that MSS/BAS sharing is not possible, see MSTV/NAB Comments at 3-4, Celsat states without hesitation that its system can share with BAS licensee operations. See Celsat Comments at 2. In addition, BST's observation that its systems' operations at sporting events are short-term, itinerant uses that "can operate with no perceptible interference to other users nearby" suggest that it may be able to share frequencies with MSS systems. See BST Comments at 10. Furthermore, and to the extent that MSS transmissions share characteristics with the transmissions of government space operations, the IUSG notes that neither MSTV/NAB nor SBE object in their comments to the Commission's plan to make NASA operations and related government uses of the 2 GHz band co-primary with BAS 2 GHz operations. See MSTV/NAB Comments at 21-22; SBE Comments at 7-8.

⁵¹ See BST Comments at 13.

2 GHz allocations that proceeds channel-by-channel, rather than market-by-market or on the basis of geographic areas, would permit MSS operators to initiate service in those frequencies from which they have cleared BAS incumbent licensees while BAS operations continue on other, remaining BAS channels within the current 2 GHz BAS allocation.⁵² Thus, Cosmos observes, the Commission could bifurcate the BAS band and allow existing BAS operations to continue in current channel bandwidths in one half the band, while the other half would be transitioned to the new, reduced channel bandwidth.⁵³ This concept -- which is, in fact, the essence of the IUSG/ICO Relocation Plan -- would enable most BAS operators to continue their present operations for years while permitting those MSS operators that are ready to commence service to do so provided that they can cover any necessary BAS relocation expenses. *The IUSG urges the Commission to take note that Cosmos' effective endorsement of the central feature of the IUSG/ICO Relocation Plan -- phased rechannelization -- is a guidepost to a means of implementing the Commission's new 2 GHz allocation plan that will serve the public interest and be acceptable both to BAS and MSS entities.*

⁵² See Cosmos Group Comments at 8-10. The IUSG urges the Commission to note that Cosmos also maintains that a market-by-market transition to the new BAS allocation at 2 GHz would be possible, in contradiction of the stated views of MSTV/NAB, SBE and BST. See *id.* at 9.

⁵³ Cosmos Group Comments at 8. Bifurcation of the 2 GHz BAS bands by this method is at odds with SBE's stated concern that simultaneous use of 17 MHz channels within the new 85 MHz BAS band would "lead to massive interference and confusion between TV stations, TV network users, and cable network users." SBE Comments at 3.

Cosmos also informs the Commission in no uncertain terms that -- as the IUSG indicated in its comments⁵⁴ -- a simultaneous nationwide retuning or replacement of BAS equipment "is not even remotely practicable" given the extent of equipment modifications or replacements that it anticipates.⁵⁵ Cosmos notes that the limited number of existing BAS equipment manufacturers cannot possibly re-equip all broadcast studios and news vehicles with the facilities necessary to execute such a wholesale changeover.⁵⁶ This latter observation is, in fact, supported by the comments of MSTV/NAB, which assert that insufficient BAS equipment is currently available that can operate in the smaller channels contemplated by the Commission for BAS operations in the 2025-2110 MHz bands.⁵⁷ The more gradual transition contemplated by Cosmos and the IUSG, however, would not tax equipment makers or existing BAS station operations to the same degree, and would therefore allow those BAS operators that must relocate in order to accommodate new MSS entrants to receive the equipment modifications or new facilities that they may need in an orderly fashion.

c. A Phased Transition Plan Offers Distinct Benefits to 2 GHz BAS Incumbent Licensees.

As might be expected, the Cosmos' Group's support for a phased transition of the kind proposed by the IUSG stems from a conviction that such a transition will be of direct benefit to BAS incumbent licensees. Cosmos notes that a multi-year transition would allow those BAS

⁵⁴ See IUSG Comments at 19-20.

⁵⁵ Cosmos Group Comments at 7-8.

⁵⁶ See id. at 8.

⁵⁷ See MSTV/NAB Comments at 9-10.

licensees that do not immediately shift to channels of reduced bandwidth to compare maturing technology, test high-performance analog and digital equipment, and thereby make better decisions on the equipment they will use in the future rather than purchasing next year's obsolete technology.⁵⁸ Boeing adds that BAS licensees in medium-size and smaller television markets may derive particular benefit from a gradual transition, suggesting that larger markets may be the first to shift to the more narrow BAS channels and that licensees in other markets can learn from their experience with new equipment before ordering and installing their own.⁵⁹ The IUSG seconds these views.

The IUSG also agrees with Cosmos' observation that a gradual transition to the Commission's new 2 GHz allocation plan is more spectrum-efficient than a nationwide simultaneous relocation of BAS incumbent licensee operations.⁶⁰ Were the Commission to require a nationwide, simultaneous relocation -- and were such a relocation financially feasible in the near future for MSS operators -- much of the 1990-2025 MHz band would lie fallow for years

⁵⁸ See Cosmos Group Comments at 8. See also IUSG Comments at 19.

⁵⁹ Boeing Comments at 5. BAS incumbent licensees in larger markets may be the first to shift to the Commission's new channelization plan because current BAS channel use is heavier in such markets. Thus, whereas BAS licensees in smaller markets where channel use is lighter may be able to shift their operations from a channel that an MSS operators seeks to clear and resume operations in another existing BAS channel, incumbent licensees in larger markets may not have that option and may need to convert to the new, more narrow channels at an earlier date. Contrary to the misleading claims of MSTV/NAB that BAS licensees "generally fully occupy" the seven existing BAS channels in a given market, MSTV/NAB Comments at 8, SBE indicates that there is substantial underutilization of existing BAS channels in many markets much of the time. See SBE Comments at 2.

⁶⁰ See Cosmos Group Comments at 9.

as less-developed MSS operators strive to convert their system proposals into real, operating satellite systems. As Cosmos suggests, the Commission would do better to permit BAS licensees to continue to use the existing BAS channels until such time as MSS operators require the use of the relevant frequencies,⁶¹ and thereby permit BAS licensees to continue their present operations while gaining valuable experience by experimenting with the new, reduced-bandwidth equipment that they will ultimately use.⁶²

d. A Phased Transition To The Commission's New 2 GHz Allocation Plan Would Also Benefit All 2 GHz MSS Operators.

As the IUSG has already shown, a phased transition to the Commission's new 2 GHz allocation scheme would benefit MSS operators that plan to provide service in the near term by permitting them early entry to the 2 GHz band. The IUSG also supports, however, the views of other commenters that benefits will accrue to *all* MSS operators from such an approach. Boeing, for example, observes that a phased transition would enable MSS operators, in their negotiations with BAS incumbent licensees, "to explore and identify the most economical means to accomplish relocation" rather than forcing them into premature adoption of a single equipment replacement or

⁶¹ As discussed further below, all remaining BAS licensees in the 1990-2025 MHz band would ultimately become subject to involuntary relocation by MSS operators after the sunset date selected by the Commission for relocation payments.

⁶² See Cosmos Group Comments at 9. The IUSG cannot accept, however, Cosmos apparent view that broadcasters should be reinstated as licensees in portions of the 1990-2025 MHz band in the event that one or more MSS licensees surrender licenses during the transition period. See *id.* at 9 n.8. Once MSS operators have gone to the effort and expense of relocating incumbent BAS licensees, they should not be given the additional burdens of contacting such licensees a second time and waiting for them to move their facilities once again. The IUSG naturally assumes that Cosmos is not suggesting that MSS operators pay to relocate BAS licensees twice -- a notion that would be patently ridiculous.

retuning approach that may be unnecessarily expensive.⁶³ Thus, it may well be that later MSS entrants will find that the cost of facilities to be purchased for purposes of relocating incumbent licensees has declined significantly from the time that the first 2 GHz BAS incumbents were relocated. Even if such proves not to be the case, the development of new technologies or the mere passage of time may bring to light new and less expensive options for relocation that are not currently available.

In any event, and as Cosmos notes, all MSS operators will benefit from being spared the huge capital outlay that would be required were the Commission to require a simultaneous nationwide relocation of 2 GHz BAS incumbent licensees -- an outlay that many, at this time, could not afford.⁶⁴ Cosmos adds that no MSS operator would be held back by a gradual, channel-by-channel transition, as most 2 GHz MSS systems are still years from operational status.⁶⁵

e. The Commission Must Not Be Swayed by Commenters Seeking to Forestall Competition from Early MSS Entrants.

Several MSS operators, while acknowledging the benefits that would be afforded to all concerned by a phased transition to the Commission's 2 GHz allocation plan, nevertheless offer the Commission an array of arguments for proceeding as slowly as possible to adopt the necessary rules and procedures to put such a transition plan into place. In the view of MSTV/NAB, such tactics represent efforts by MSS applicants that are not planning to initiate service in the near future to postpone the time when they will need to compensate BAS licensees for the cost of

⁶³ Boeing Comments at 5.

⁶⁴ See Cosmos Group Comments at 8.

⁶⁵ See id. at 8.

relocation.⁶⁶ While the IUSG has no doubt that MSTV/NAB is correct, it submits that these arguments are also intended to delay for as long as possible any market entry by those MSS systems that will be ready to provide service in the near term.

Constellation, for example, asserts that no plan to minimize the impact of 2 GHz BAS incumbent licensee relocation on BAS licensees or MSS operators can be established until the Commission adopts its 2 GHz licensing rules.⁶⁷ In addition, Constellation suggests that the Commission wait until somewhere between the years 2005 and 2007 to implement a complex nine- or ten-channel BAS channelization plan.⁶⁸ Even once a long-term digital BAS channelization plan and 2 GHz MSS licenses are issued, Constellation recommends, the Commission should give MSS and BAS licensees "a period of time" in which to negotiate a transition plan that minimizes the impact on both services.⁶⁹

The primary purpose of Constellation's painfully slow timetable is revealed in its expressed fear that "a system operator such as ICO" might dictate the 2 GHz incumbent licensee relocation schedule to other MSS licensees.⁷⁰ The IUSG believes that no MSS operator can or should dictate to others the pace of any necessary 2 GHz relocations, but emphasizes that Constellation's delaying tactics are efforts to do just that. One of the many virtues of the IUSG/ICO Relocation Plan — a plan that should be imposed swiftly by the Commission, rather than debated ad nauseam

⁶⁶ See MSTV/NAB Comments at 9, 12, 16-22.

⁶⁷ See Constellation Comments at 5.

⁶⁸ See id. at 5.

⁶⁹ See id. at 6.

⁷⁰ See id. at 2.

by parties that have no interest in reaching a quick resolution -- is that each MSS operator is free to relocate 2 GHz incumbent licensees as necessary, at its own pace and on its own dime. As a result, gamesmanship among MSS operators regarding the timing of each entity's market entry would be greatly reduced.

Much like Constellation, Boeing claims that neither MSS licensees nor the Commission have sufficient information regarding current BAS operations and equipment to propose a specific transition or relocation plan at this time.⁷¹ Boeing asserts that the Commission will be better able to determine which BAS licensees need to be relocated once it assigns specific frequencies to MSS licensees and once MSS operators' business plans are further developed.⁷² Boeing also argues, however, that any 2 GHz transition plan should be established not by the Commission but by the MSS and BAS communities through the negotiation process.⁷³ Just how long that complex process could or should take, Boeing does not suggest. Once again, the IUSG urges the Commission to impose a transition plan so as to facilitate the prompt establishment of 2 GHz MSS service and to prevent what appear to be delaying tactics on the part of certain MSS operators.

2. There is Substantial Support for a 12-13 MHz Channel BAS 2 GHz Channelization Plan.

Although several BAS entities suggest in their comments that a 12-13 MHz BAS 2 GHz channelization scheme is unworkable, other commenters -- including many BAS entities --

⁷¹ See Boeing Comments at 3.

⁷² See *id.* at 6.

⁷³ See *id.*

provide significant evidence that such a plan can indeed be implemented successfully. The IUSG believes that the phased nature of the IUSG/ICO Relocation Plan is ideally suited to establishment of the Commission's proposed channelization scheme because it will maximize the amount of time in which additional new technologies can be developed for BAS operation in more narrow channels and will permit BAS entities relocating later in the transition process to benefit from the experience of those that relocate earlier.⁷⁴

The common theme of the few commenters opposing a 12-13 MHz channel BAS 2 GHz channelization plan is that technology has not yet been developed that would permit successful BAS operations at their present level of quality in channels of that bandwidth. APTS argues that 12-13 MHz channels would hamper the ability of stations to broadcast over long distances, thus requiring the establishment of expensive new intermediate hop sites between broadcast transmitters.⁷⁵ In addition, APTS asserts, 12-13 MHz channels "would preclude joint television/radio licensees from the efficiencies of running multiple subcarriers for their FM, TV stereo, SAP and data services."⁷⁶ Cosmos suggests that the Commission would be acting arbitrarily and capriciously in requiring broadcasters to give up existing technical capabilities that lie "at the heart of broadcasters' local public service obligations" in reliance on predicted future

⁷⁴ The IUSG believes that this observation responds adequately to BST's concern that the Commission provide a reasonably long transition period for conversion of BAS operations to narrower channel spacing at 2025-2110 MHz. BST Comments at 5.

⁷⁵ See APTS Comments at 3.

⁷⁶ Id. at 3.

technological changes.⁷⁷ BST complains that the Commission has changed its view over the past two years as to the viability of 12-13 MHz BAS channels based on a study that it claims "has apparently not been subject to critical industry analysis."⁷⁸

In fact, however, there is ample evidence that technology already exists to permit certain BAS operations in 12-13 MHz channels, and that testing and experimentation is under way that will soon yield comparable capabilities for other BAS functions. According to a recent news report, for example, NDS will launch a new digital ENG system at NAB '99 in Las Vegas that is designed to work in channels of between 10 and 12 MHz while delivering better multipath performance than analog microwave systems.⁷⁹ SBE acknowledges in its comments that digital radio facilities for permanent fixed uses are already available for use in frequency bands similar to those designated by the Commission for future 2 GHz BAS operations.⁸⁰ It is plainly for this reason that SBE indicates its belief that the 2025-2110 MHz bands can be rechannelized into seven channels of just over 12 MHz in bandwidth each.⁸¹

Disney's comments in this proceeding consist of the results of tests of digital BAS equipment, and indicate that a 10-12 MHz channel is sufficient for digital operation of most fixed

⁷⁷ Cosmos Group Comments at 4.

⁷⁸ BST Comments at 7.

⁷⁹ See Glen Dickson, NDS Launches Digital ENG Gear, Broadcasting & Cable, Feb. 15, 1999, at 71.

⁸⁰ See SBE Comments at 6.

⁸¹ See SBE Comments at 1-2.

or temporary fixed links.⁸² Disney's tests also suggest that transmissions with time variant multipath such as those from helicopters, motorcycles and cars can be successfully conducted in such channels with the use of a slightly higher error correction of rate one half.⁸³ Disney concludes that high quality digital equipment for BAS use will be available in the near future, and that it may even be possible to use multiple video feeds on a single channel in cases where quality and latency requirements are not a primary concern.⁸⁴ BST, too -- for all its expressed misgivings -- admits that it is currently experimenting with encoding/compression techniques that might allow LTTS use of 12 MHz channels.⁸⁵

To the extent that development of digital equipment may lag at all behind the need of MSS operators to relocate BAS facilities to channels of reduced bandwidth, the IUSG notes the Commission's observation that analog BAS operations in 12 MHz channels are also possible with

⁸² See Disney Comments at 2. This result confirms the findings previously presented to Commission staff by COMSAT Corporation and John B. Payne, indicating that an 85 MHz BAS allocation consisting of six 12 MHz channels and one 13 MHz channel would, with current technological developments, be functionally equivalent to the current BAS 120 MHz allocation. See IUSG Comments at 5 & n.15.

⁸³ See Disney Comments at 2-3.

⁸⁴ See *id.* at 16, 20-21.

⁸⁵ See BST Comments at 9. The IUSG once again acknowledges BST's request that, because LTTS licensees such as BST cannot presently use 12 or 13 MHz wide channels, the Commission should provide replacement spectrum for video channels in the same frequency range. See *id.* at 8. BST also asks that the Commission commence a proceeding to consider the long term spectrum sharing needs of multichannel LTTS video production, and the means by which, in the longer term, such service can be continued without disruption to primary users of microwave spectrum. *Id.* at 15. As indicated above, the IUSG has no objections to these requests so long as they do not infringe on the strong public interest in affordable, promptly available 2 GHz MSS.

appropriate modifications to existing facilities.⁸⁶ In support of this conclusion, the IUSG understands that ICO will file with the Commission on this date a new study by Sarnoff Corporation which concludes that the reduction of ENG channel bandwidth from 17 MHz to 12 MHz can be accomplished with minimal equipment impact and no impairment of service quality. Disney also states that it plans to work with a microwave equipment manufacturer to test the ability of a two audio channel ENG system to function in a 12.14 MHz channel.⁸⁷ Thus, analog BAS operation in the 12-13 MHz channels contemplated by the Commission is eminently practical.

Because it has been shown that BAS licensees can operate analog facilities in 12-13 MHz channels, the IUSG urges the Commission to reject Constellation's suggestion that it require wholesale conversion of BAS facilities to digital technology and adopt a BAS channelization plan employing nine or 10 channels of even more narrow bandwidth than those proposed in the Third NPRM.⁸⁸ It is clear that such a costly and complex undertaking is unnecessary, and would be enormously wasteful of existing BAS facilities. Furthermore, the Commission has previously indicated its disinclination to impose such a requirement.⁸⁹ While Constellation is undoubtedly correct that the use of digital facilities in nine or more BAS channels "would not only accommodate existing licensees but would provide for growth potential for additional BAS

⁸⁶ See Third NPRM, FCC 98-309, slip op. at 17 (¶ 36).

⁸⁷ See Disney Comments at 21.

⁸⁸ See Constellation Comments at 5.

⁸⁹ See IUSG Comments at 31-32 (citing MO&O, FCC 98-309, slip op. at 9 (¶ 18)).

facilities,"⁹⁰ it is not the responsibility of MSS operators under the ET/Microwave rules or any reasonable set of relocation guidelines to finance the future expansion of BAS licensee operations. Rather, as the IUSG has previously observed, it is the Commission's goal merely to ensure that relocated incumbent licensees are no worse off after relocation than they were beforehand.⁹¹

3. The IUSG Agrees With Those Commenters Advocating A Reasonable Approach to BAS Relocation Expenditures That Is Compatible With the IUSG/ICO's Relocation Plan.

As the IUSG indicated in its comments, it is willing to work in accordance with the general relocation and cost recovery policies established by the Commission in its ET/Microwave proceedings, so long as those policies are adapted to reflect the realities of 2 GHz MSS.⁹² The IUSG believes that the phased IUSG/ICO Relocation Plan for BAS incumbent licensees would help ensure that sufficient funds are available as needed to facilitate the orderly relocation of BAS licensees as MSS operators gradually clear the 1990-2025 MHz bands. The IUSG urges, however, that the Commission adopt relocation policies in this proceeding that do not permit incumbent licensees to wring from MSS operators more compensation than they are reasonably entitled to receive for shifting to the Commission's new 2 GHz BAS allocation. The Commission

⁹⁰ Constellation Comments at 3.

⁹¹ See IUSG Comments at 31 (citing Microwave Relocation/Cost Sharing First R&O and FNPRM, 11 FCC Rcd at 8843 (¶ 32)). In the event that the channelization plan ultimately adopted by the Commission should leave BAS licensees with more channels in the 2 GHz band than currently exist for BAS use in congested areas or elsewhere, the Commission should consider Constellation's request that the addition of channels for BAS use be deemed a benefit to BAS licensees that should be taken into account in calculating relocation costs for purposes of reimbursement. See Constellation Comments at 6.

⁹² See IUSG Comments at 6, 14-15.

must bear in mind that, as TMI argues in its comments, the failure to keep relocation costs within reasonable bounds may jeopardize the very future of 2 GHz MSS in the United States.⁹³

a. The IUSG/ICO Relocation Plan Will Help Ensure that BAS Incumbents Have Sufficient Resources With Which to Relocate Their Facilities as Necessary.

Several entities with broadcasting interests express concern in their comments that BAS licensees be provided with adequate funds for relocation purposes in advance of any required relocation to new bands and/or conversion to the use of new equipment. SBE, for example, urges that the Commission require MSS entities to fund any necessary retuning or replacement of 2 GHz BAS equipment in advance so that broadcasters are not "left holding the bag" by MSS entities that might fail to make timely payments on an installment plan.⁹⁴

The IUSG submits that the IUSG/ICO Relocation Plan will alleviate such worries. Because all BAS licensees that may ultimately need to be relocated will not be required to relocate at one time, it will be unnecessary for MSS operators to produce funds sufficient to finance that relocation at one time, or, as MSTV/NAB suggests, to post bonds for their respective shares.⁹⁵ Thus, the first MSS entrant or entrants to the 2 GHz bands will not be required to carry the huge cost of such relocation alone, nor, under the alternative scenario, will MSS operators who are not yet ready to enter the market be required to find funds that they may not yet have. Instead, each MSS operator will only be required to have funds sufficient to relocate any BAS incumbent licensees that may need to be moved to make room for its own operations, and only at

⁹³ See TMI Comments at 1-2, 3.

⁹⁴ SBE Comments at 3. See also APTS Comments at 7; BST Comments at 5, 11.

⁹⁵ See MSTV/NAB Comments at 15.

the time when such relocation must take place.

b. MSS Operators Should Only be Required to Leave BAS Incumbents No Worse Off Than Before Relocation.

In funding any necessary relocation of BAS incumbent licensees in the bands that it plans to use, the IUSG and other commenters⁹⁶ do not believe that any MSS operator should be required to expend a sum that exceeds the present value of the facilities currently operated by the relevant BAS incumbent licensees, or to finance the purchase of equipment with capacity exceeding that currently used in the MSS spectrum by those incumbent licensees. Therefore, while there may be merit to Cosmos' proposal that MSS operators provide relocating BAS incumbent licensees with a type of "flat rate compensation," the IUSG must contest Cosmos' proposal to add to that sum a fixed 25 percent additional charge "reflecting installation and miscellaneous costs."⁹⁷ Cosmos offers no evidence to support the use of this figure, which the IUSG believes substantially exaggerates any relocation costs that a BAS licensee is likely to incur above and beyond the cost of obtaining equipment of comparable capabilities to that which it owns at the time of relocation.

The IUSG also emphatically opposes BST's suggestion that all LTTS equipment replacements or modifications that serve to implement the Commission's new 2 GHz band plan be deemed justified and acceptable for purposes of reimbursement, "whether or not they add new design capabilities."⁹⁸ The IUSG notes SBE's much more reasonable recommendation that "TV

⁹⁶ See, e.g., Boeing Comments at 2.

⁹⁷ Cosmos Group Comments at 11.

⁹⁸ BST Comments at 13.

BAS users electing to purchase replacement equipment with added features should receive a pro rata share of the new equipment cost, unless such new features or abilities represent the most basic replacement equipment available."⁹⁹ As Constellation argues correctly, MSS operators should not be required to pay BAS incumbents for increases in the capabilities of their present facilities, whether the new capabilities involve high definition television, novel transmission scenarios, or other improvements.¹⁰⁰ MSS operators are not in the business of making BAS licensees' fondest dreams come true, and cannot be required to provide them with service capabilities beyond those that they have and actually employ at the time they are relocated.

c. MSS Operators Should Be Allowed to Select the Lowest Cost Option for Relocating BAS Incumbent Licensees.

So as to minimize the opportunities for incumbent licensees to game the system and obtain replacement facilities at excessive cost or with unwarranted capabilities, the IUSG recommends -- as do Constellation and Boeing -- that the Commission permit MSS operators to select the lowest cost relocation option that will leave BAS licensees no worse off after relocation than they were beforehand.¹⁰¹ For example, MSS licensees should not be required to pay to upgrade the facilities of BAS licensees to digital equipment if the incumbents can be relocated and provided comparable capabilities through retuning. Thus, the IUSG agrees with SBE and Boeing that the Commission should permit parties to MSS/BAS relocation negotiations to decide whether to retune or replace

⁹⁹ SBE Comments at 6.

¹⁰⁰ See Constellation Comments at 6.

¹⁰¹ See id. at 6-7; Boeing Comments at 7-8; IUSG Comments at 30-31.